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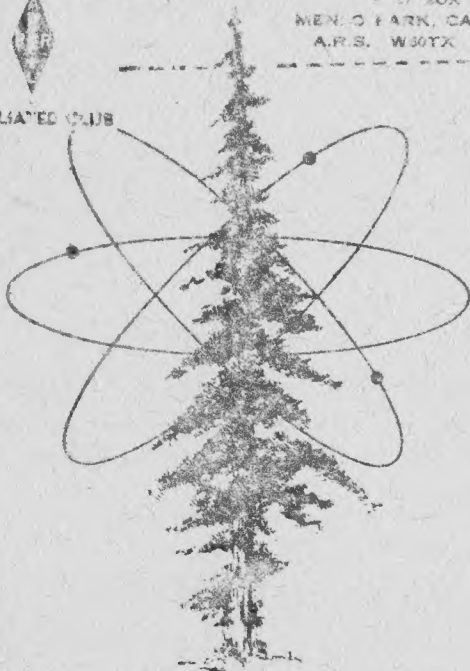
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PALO ALTO AMATEUR RADIO ASSOCIATION, INC.

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A.R.S. W60TX U.S.A.

STATION W60TX

AFFILIATED CLUB



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MENLO PARK
CIVIL DEFENSE
RADIO CLUB



K6YQT

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Vol.
XVII
1973

June '73

OFFICERS

PALO ALTO AMATEUR RADIO ASSOCIATION, INC.

ADMINISTRATIVE

President: Fred Canham, K6YT
 Vice Pres: Bob Baum, W6BFH
 Secretary: Gene Reynolds K6QOM
 Treasurer: Vance Wardlow W6FLE
 (Trustee W6OTX PAARA Club
 Am. Radio Station)

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Chairman: Fred Canham, K6YT
 Sect'y : Gene Reynolds K6QOM
 Member : Hal Moore, W6DEF
 Member : Ed Fairbanks W6AIN
 Member : Andy Korsak VE3FZK
 Member : Paul Thekan (NC)
 Member : Tom Ohlsson WB6KQZ

Menlo Park C-D Radio Club

OFFICERS

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 Vice Pres: Eric Reese, WB6KQX
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 RACES Radio Officer: Bob Allen, W6WQD
 Asst RACES Rdo Off.: Vance Wardlow, W6FLE

PAARAGRAPHS

Staff

Managing Editor: Lee Zalaznik, WB6BJB
 Ass't Editors : Andy Korsak, VE3FZK; Gene Reynolds K6QOM
 Eric Reeze, WB6KQX; Tom Ohlsson, WB6KQZ; Gene Sussli,
 WA6NVU (San Carlos Bugle).

POLICY

1. Membership includes subscription to PAARAGRAPHS;
2. Annual dues \$4.00 per year;
3. Members will be dropped upon non-payment of dues;
4. Subscription to PAARAGRAPHS \$1.00 per year; non-subscribers will be dropped from mailing list as new names are added.

APPLICATIONS FOR MEMBERSHIP.

Send \$4.00 dues to PAARA, P.O. Box 911, Menlo Park, Ca. 94025
 For info call 854 0803

JOIN THE CLUB

BECOME A PARTICIPATOR

GET INVOLVED

June 1973

COMING EVENTS

Meeting Notice ATV in LIVING COLOR -- Demonstration
and lecture on color TV by Wayne Ryder
W6URH and Andy Korsak VE3FZK/W6. Wayne's conventional 3
vidicon camera recently completed and Andy's single vidicon
"striped" camera will provide live color TV for the audience.
Basic principles of color TV will be explained.

-----Coffee and donuts -----

Place: Menlo Park Recreation Center Date: Fri. June 1, 7:30

Board of Directors Meeting

Wednesday, June 6, 1973 TIME: 7:30pm PLACE: The PAARA trailer at
SRI in Menlo Park, CA. All members and visitors are invited to
come.

FOR SALE

Side Band Engineers SBE 36 Transceiver, 500 watts SSB PEP
Nixie's tube readout. Just re^{alig}ned by factory, 3.5 to 30Mhz, very
little used like new, Call John Cameron at 325-7737 or send \$750.00
to 440 Clair Place, Menlo Park, CA. 94025.

CCRC Circle Rules on Plaque

Questions and discussion as to whether there should be changes
in the Field Day Rules last year..... Decided no changes are needed,
except filing as with ARRL... Contest scoring is as follow; Valid
contacts multiplied by Power multiplier divided by the Square root
of the transmitter Class plus Bonus Points... All entries must include
copies of required documents. (a) log sheets or check sheets (b) local
newspapers clipping, (c) FD message to SCM showing service, station,
time, date (d) ARRL score sheet, indicating ARRL claimed score. To
be submitted to CCRC by Aug. 1, 1973. (from CCRC Circle)

~~4~~
4

Report of last meeting 4 May 1973

The San Carlos Club hosted the meeting. They had arranged for the meeting to be held at the Electronic Museum at Foothill College. There was an excellent turnout and everyone learned many things of the past.

The Museum consists of a collection of old time radio equipment mostly that developed during and after the first World War. At that time galena crystals were the standard detector and the transmitters were raw AC spark. These were followed by the Poulsen Arc which produced the first pure CW signals. These were a joy and pleasure for the ship ops to copy. Then followed the first vacuum tubes with a grid control of the electrons. There followed a period of competition between the tubes and the arcs. Of course we now know the tubes won. And we are now in the transition to the solid state devices.

One of the very best parts of this meeting was the opportunity for eyeball QSO's among members. Each had a tale to tell of his early experiences - and there were some "Hair-Raisers"!

It was a very enjoyable meeting and we thank San Carlos for their efforts in providing us with a fine evening.

* * * * *

BOARD OF DIRECTORS MEETING, PAARA, 9 May 1973

Five members present: Hal Moore, Fred Canham, Lee Zalaznik, Paul Thekan, Vance Wardlow, also member Jerry Starkey, and some very welcome visitors. Ralph A. Trout, WA6EGH and his lovely XYL Rachel, WA6EQA.

A poster was prepared for Quement Electronics with the PAARA address and phone number. It will be delivered soon.

Fred Canham suggested the purchase of three masts for use on Field Day. The motion passed instructing Fred to make the purchase together with adequate guy wire.

Hal Moore will obtain the necessary forms from ARRL for Field Day. Fred will have prepared the check-off sheets for the loggers

It was pointed out that EACH OPERATOR ON FIELD DAY MUST HAVE WITH HIM HIS ORIGINAL HAM LICENSE.

Paul Mezzapells and Daniel Rhodes from the Sonoma County ARA requested use of the PAARA trailer. Denied due to condition.

Page 5

Letter to the paper.

From Henry G Cady W6PSY
P.O. Box 883
Clearlake Highlands,
California.
January 15, 1973

Hi, Fred;

I have just received another copy of PAARAGRAPHS complete with typed address label which seems to indicate that the PAARA "computer" has somehow entered my name as a subscriber.

I do enjoy reading your little publication which gives me news of ham doing from my old stomping' grounds. I have discovered that the subscription rate for non-members is only one skin a year! In this time of rampant inflation it's a great bargain. I'm sure PAARAGRAPHS is being produced on a non-profit (or worse) basis. Not wishing to freeload under such conditions, I have enclosed a genuine steel engraved Federal Reserve Note which I trust you will turn over to PAARA for deposit in the appropriate place for its intended use. I've attached label to it so's you'll not get it confused with the thousands of other such certificates reposing in your voluminous wallet!

Good luck with the S.E.T. exercise this month. It's worth while project

73 de W6PSY
Jerry

UPCOMING EVENTS

June 23-24	FIELD DAY . SEE PAGES 6 and 7 for PAARA plans.
Oct. 13-14	ARRL 1973 Pacific Division convention at Santa Cruz at the Dream Inn Convention Center.

FIELD DAY JUNE 23rd and 24th

By Fred Canham K6YT

Vance Wardlow, W6FLE secured the use of a wonderful field day site this year. It is located at the top of the hill right behind Vance's home. Refer to the map for directions. There are no power lines in the area and plenty of room for antennas. It should prove to be an ideal location.

Field day teams are progressing pretty much as outlined in last month's "PARAGRAPHS". If you wish to participate in field day with the Palo Alto club please get in touch with any of the officers listed on page 2. The novice team has not reported on lately and probably needs more operators. Novice operators are urged to get in touch with us pronto!

As this is being written, we are preparing to set up antennas for an "Exploritorium" being held Friday, May 18th at the Eastbrook school in Los Alto Hills. We will demonstrate amateur radio to several groups of grade school students during the school day and hopefully have time to tune up field day antennas afterwards. Jerry Starkey; WA6LIJ, Jerry Houlter; W6CCP (Foothill ARC), Ed Fairbanks; W6AIN, and Fred Canham; K6YT plan to be on hand.

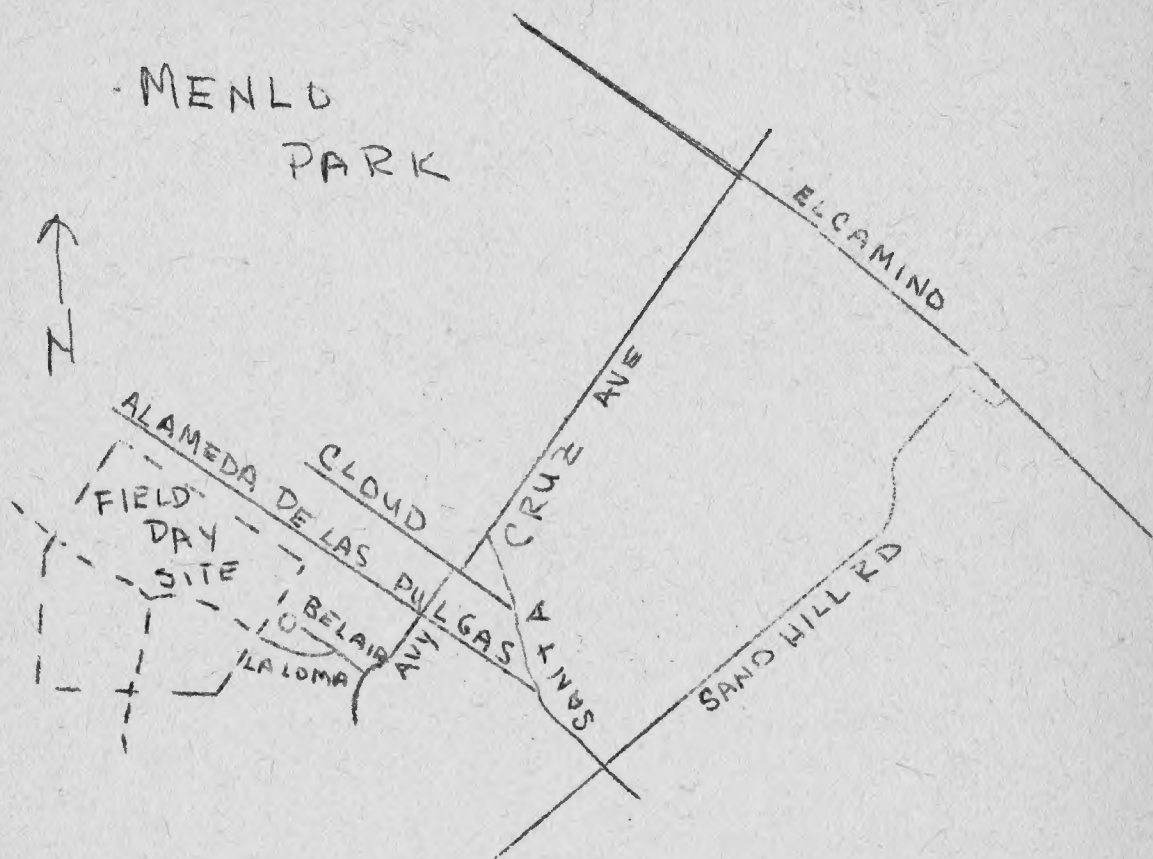
In challenging San Carlos again this year we will need top performance from all of our field day participators - Remember !

It's time to THINK FIELD DAY!!!!

WELL COME BACK

John Troster, W6ISQ 82 Belbrook Way, Atherton, CA. is back as a member in good standing. Hope to see you at field day John.

PAY YOUR DUES HELP OUT IN FIELD DAY BECOME ACTIVE.



FIELD DAY SITE MAP FOR PAARA 1973

Rg

⁸
"Red" Johnson ELECTRONICS

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Counter

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Timer

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1½ - 2½ Min. (Adj.)

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M-F: 8AM-8PM.

Sat.: 8AM-6PM.

SUN.: 10AM-2PM.

Adjustable
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Z = 1000 Ω

T_d = 0 to 0.4 μ sec

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FOR SALE

Transmitter, Heath DX-100, 160 thru 10 meters, 180 watts, CW&AM Grid block keying with built in VFO, with manual, excellent for novice operation. \$60.00

Crystals, Mars & WW frequencies, for Drake Transmitters, receivers or transceivers. \$3.00 each. For more information call Ray Allustiarti, W6JOV, 1812 El Verano Way, Belmont, CA. 94002 Phone# 591-1995.

FOR SALE

AN/FRR-5007 communications Rcvr, (rack mount type) with manual, 5 tuning drawers, and BC-453 with supply, (best offer). AN/SRR-13A Rcvr with manual & spare parts. (best offer). BC-221 Freq meter set, with supply, \$25.00. Heath Cheyenne MT-1 with supply, (best offer). Vibroplex speed key, \$15.00. Heath HM-10A GDO with manual, \$20.00. Home brew 50ft. telescopic vertical, \$10.00. For more information Call Marv Emerson K6LNY 365-7216 eves.

FOR SALE

NEARLY COMPLETE DRAKE STATION..... TR-3 for \$300; RV-4 (remote VFO) for \$70; and a virtually mint F4B receiver for \$340.... package deal available. For information call Rob Bly at 326-6200 x3362 (days) or 964-7609 (eves).

FOR SALE

Motorola U43GGT (T-Power), Control Head, Mic, Speaker, Cable, Fuse Block, Relay, Paint & Misc Parts (very few), Dual Channel 25-85, 31-91; Tone Encoder 1.8kc, 1.95kc, 2.1kc, 2.225kc and 2.4kc, Retuned to 2 meters, 22 watts out checked with Bird wattmeter needs the tubes checked as one Xmit and one Rcv oscillator doesn't oscillate because of bum tubes. With a new 6146 and 2E26 it would probably get more than 25 watts out. Then realign it again. Price \$125.00 Need money for school Write or phone Paul Merzapelle WA6NLJ 3831 May Ct. Palo Alto, CA. Phone 707-795-2942.

A REPLY TO RULE CHANGES:

By Phil McQuatters WB6ETE
(from MODULATOR)

Does the rank and file of amateur radio realize the recent advancement of the "State of the ART" in communication that has taken place in the last few years? Do we recognize what has "spun off" the Apollo program to benefit communications? Are we conscious of the sophisticated test equipment that is within the grasp of amateurs?

An amateur no longer taps a piece of wire for an antenna to his final tank coil and measures the "signal out" by the color of the final amplifier plate! We now have sophisticated in-line watt meters, SWR bridges, antenna noise bridges, pi-network outputs and many other things including commercial beams and much good literature to explain it all. Is it no more than right the FCC tightens our rules and asks us to conform to the state of the art? Haven't they let us ride along on the old 1934 rules long enough?

How many of us recognize the fabulous evolution currently in progress in the field of solid state? Think of what is happening in the VHF range that is attribute to solid state! In 1934 you needed a "dynamoter" to go mobile; today:- just plug it in your cigarette lighter. Is that progress? Just think of the thousands of other places similar advancements have been made in the state of the art.

Can we recognize these things and still have the "guts" to complain about the FCC asking us to conform to a few "modern" rules to "pressure us into staying abreast of the state of the art/?"

I think not!

I definitely agree with Prose Walker and his staff. It is proper these changes be made.

I sincerely regret disagreeing with ARRL in this matter and feel our organization for amateur has responded too quickly and without thorough exploration of what it is all about. Why do we become hostile so quick when asked to better ourselves? We acted the same way when incentive licensing was introduced and now lood at the record! Doesn't this serve as an example to force us to grit out teeth and get busy? Why sit back and get stale? It will do us all good to view the new rules as goals and get busy making personal advances .

A CLIQUE ?

It has been rumored recently that our club is being run by a small "clique". Upon investigation we have been forced to admit that we have found this charge to be true.

Furthermore, we have found that this clique is composed of those faithful members who are present at every meeting, accept offices, accept appointments to various committees, give willingly of their time and talents and sincerely believe that the more one puts into his organization the more he will get out of it.

We are sorry that this is a small clique and wish it were a much larger one. We also have a suggestion which we offer in all sincerity
---- WHY DON'T YOU JOIN THE CLIQUE? Remember, it's YOU AND ME IN '73.
(from CCRC Circle)

AERONAUTICAL MOBILE ON THE MAY 5th WEEKEND

Our Emergency Coordinator Jim Allan W6HSI and WB6CQW flew a Cessna 182 at 11,000 ft. down to Calexico and then into several Mexican towns including Ensenada,. Some towns in Mexico have no TV, no paved roads, and no telephones. Barks and businesses communicate by radio, Jim says. Many beams could be seen.

Besides the usual airplane frequencies, they had a 2 meter FM rig with them and worked just about all the repeaters and 94 coming and going.

They talked to Jim's brother, Pete Peterson, Al Nielsen, and others. Freeway #5 could be seen clearly with autos creeping along. It is the ideal way to travel, and Jim says that ham radio and flying go together very nicely.
(from the CARRIER)

OSCAR 6 POWER SHORTAGE

Don't be discouraged if, after you have figured out the orbit times, you still seem to be missing it. That is because OSCAR6 continues to suffer from a shortage of power, and must be turned off from Monday through Thursday (GMT) for the Solar charging of its batteries.
(from CCRC Circle)

OFFICIAL ARRL BULLETINS

#418 March 22.

The Continental Traffic Net of the Daylight National Traffic System is now operational. K7IFG is CTN manager and WA8MCR is assistant net manager eastern area. Most region net in the eastern and pacific areas are also active. Present daytime region net managers are W1YNE first region, WA2RYD second region, WA3CQ third region, WB4PNY fourth region, W6INH sixth region, W7AXT seventh region, W8CHT eight region, WA0SIG twelfth region. Leadership personnal is still needed in the Central Area and Eastern Canada,. CTN meets on 14.313 kHz at 1830 GMT on Monday, Wednesday and Friday with daily operation scheduled to begin April 1. Check with your SCM, page 6 QST, to find out how you can participate in DNTS activities.

#419 March 29

ARRL has now filed strong opposition with FCC concerning the proposal to raise license fees, Docket 19658,. The document points to drops in numbers of licensees as a result of the 1964 and 1970 fee actions. Further, it requestes more services to the amateur, including automatic mailing of license renewal forms; free retesting after a failed examination and more frequent examinations at more numerous locations, in justification of present fee levels. The full text will appear in the May issue of QST.

#420 April 5

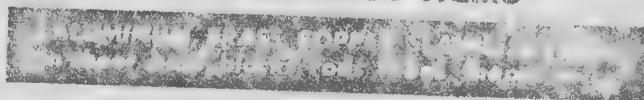
International Amateur Radio Union member societies in Region II, North and South America, will meet in Santiago, Chile, Commencing April 9 for their triennial conference. The five day meeting is hosted by the Radio Club of Chile and will deal with many amateur radio organizational matters of both regional and worldwide concern. Particular attention will be paid to possibility of a future world confrence on high frequency allocations, and the establishemnt of a program for protecting and perhaps increasing the present amateur band segemnts. A report of the meeting will appear in a summer issur of QST.

J & H OUTLET

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AND MANY OTHER ITEMS TOO NUMEROUS TO LIST HERE

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STORE HOURS

MONDAY THROUGH SATURDAY 10 AM to 6 PM

J&H OUTLET

OFFICIAL ARRL BULLETINS

#421 April 12

Amateur stations in space, such as Oscar 6, operate under the regular amateur rules, except that certain requirements difficult or impossible to meet are waived by the Federal Communications Commission. Up to now such waivers had required the vote of the seven commissions in formal session. In an order released March 26, however, the commission has delegated to it Safety and Special Radio Services Bureau authority to grant waivers to amateur space stations on rules dealing with location, authorized emission, control identification, logging and operation privileges.

#422 April 19

This is the last call for repeater registrations to be newly listed or updated in the next issue of the ARRL Repeater Directory. Repeater trustees are urged to assure the accuracy and completeness of their repeater listing by using the special registration card CD85A, available by sending an addressed stamped envelope to ARRL, 225 Main Street, Newington, Connecticut 06111. May 1 is the deadline for registration.

NEW SCHOLARSHIPS

The Foundation for Amateur Radio, Inc., a non-profit organization with its headquarters in Washington, D.C., announces its intent to award three scholarships for the academic year 1973-74. All amateur, wherever resident in the U.S. and holding an FCC license of at least general class, can compete for one or more of the awards if they are now enrolled or have been accepted for enrollment in a full-time course of studies beyond high school. (from CCRC Circle)

Further details and application forms can be requested from the Chairmen, Scholarship Committee, 8101 Hampden Lane, Bethesda, Maryland 20014. Requests must be postmarked prior to June 1, 1973.

TECHNICAL TOPICS DE VE3FEL/W6

Last month I published here the first instalment of an article submitted by Bob Baum W6BRH on an easy way to test transistors and diodes using any cheap scope and a few junkbox parts. Since then, Bob come over to my place to pick up some parts from the club kitty and in a matter of 5 minutes we had the thing all hooked up with my \$15 scope and tried it out on a few diodes and transistors out of the club kitty-- worked like a charm. By the way, any of you wanting any parts for repairs or construction projects, tap the vast resources of the many items donated to our club over the past two years or so-- I am storing them in my basement. On the other side, anyone wanting to donate parts or equipment, we'll be glad to accept and sign you a receipt for tax deduction, provided you claim a fair market value for the stuff.

Before we get into the W6BRH article, a few more tid-bits from my technical activities. Andy Allen W6RSR borrowed a VFO from the club and had some trouble getting a good and stable tone out of it. I took it back and looked for possible bad tubes. It didn't take very deep burrowing into one of the many boxes of tubes in the club kitty before I came across 5 6C4's and 4 6AC7's to try out, so if any of you guys are looking for a tube check into the club supply.

My activities in the past two months have been centered on ham TV. I bought a 70 watt output 440 MHz transmitter from Bill Jackson W6OWQ and have been sending pictures to Elmer WA6BEC and Paul Thekan with less than the most desirable video quality but progress is the name of the game, as they say. I am now also back to building a color TV camera which I started last year in the lab at SRI during lunch hours and after work. Now that I have taken over the garage in my new QTH there's plenty of room to do it at home. I have reasonably good chroma signals from demodulating subcarriers generated by a striped filter if the focal plane of a relay lens. The next step is to combine these signals into a composite chroma signal. Wayne Ryder W6URH has his color camera all apart again for further improvements. Last pictures I saw through it were quite excellent but I guess he's a perfectionist. Chuck ~~McConaghy~~ McConaghy WA6SYB has just recently purchased some ATV gear and hopefully we shall be exchanging pictures across the bay pretty soon. Ed Fairbanks W6AIN just got himself a 2-meter rig and is on the club net at 7:30 Mondays, with a 75 foot long wire. Bob Baum is after me to get back to our 2-meter project and get more guys in the club on 2 so we can enlarge the net.

CONTINUATION OF "THE CURVE TRACER" submitted by W6BFH
(from MOBILE RADIO DEPARTMENT, GENERAL ELECTRIC CO. Lynchburg, Va)

Dodes

When checking a diode, if the vertex of the L-shape is rounded, or if either leg is much shorter than the other, or slanted from the horizontal or vertical, the diode should be discarded. NOTE: it is important to have adjusted the scope correctly.

Seleniums

When looking at a selenium rectifier, a typical pattern will have a rounded vertex and a short, slightly slanted vertical leg--indicative of poor transfer characteristics, a high forward voltage drop and some forward resistance. These are typical selenium characteristics and are no cause of concern unless the vertical leg is very short or very slanted.

Tunnels

A good tunnel diode will display two vertical lines with a gap in the center. However, by increasing the scope horizontal gain, you can get the classical tunnel diode curve.

Zeners

The horizontal part of the trace is the Zener voltage and can be calibrated with a known Zener for measuring unknown ones. It's probably worth mentioning that with a 6.3 volt transformer you are limited to checking Zeners of 9 volts or less. There isn't enough sweep voltage available to show the reverse junction above this value. No real problem here though--if you need to check Zeners above 9 volts there is no reason why a 12 volt transformer can't be used. If this is done, the current limiting resistor should be doubled to limit the current to a couple of mills for safety.

SCR's

Checking SCR's with the Curve Tracer is as simple as ABC since it will conduct during the half-cycle when the anode and gate are positive with respect to the cathode. With the gate open, the SCR will not conduct and the Curve Tracer shows an open circuit.

Capacitors

Capacitors connected between horizontal and ground (without regard to polarity, even with electrolytics), will display an ellipse, with the long axis horizontal for values up to about 0.85mfd. At about 0.85mfd the pattern will be a circle and above this value the major axis is oriented vertically. When testing capacitors, if the major axis of the ellipse is tilted, throw away the capacitor--its leakage is much too high.

Resistors

Resistors between 100 and 100,000 ohms can be tested. The tilt or angle of the trace will be in direct proportion to the resistance of the unit being tested.

Potentiometers can be connected between center tap and either end. When the pot shaft is rotated the scope trace will move from horizontal to vertical--(if the value of the pot is great enough). A jumpy or fuzzy trace indicates a noisy or open unit which should be cleaned or discarded.

Photoconductors

Photoconductors connected between horizontal and ground with the surface exposed to light will display a nearly vertical trace indicating the low resistance of the unit when exposed to light.. Now, cover the cell with your hand and watch the line move to the horizontal, indicating the high dark resistance of the cell.

Versatility is the Key

It was interesting to check a number of different devices without any need for adjustment. A great time-saver, it is especially useful as a comparator-- the angle for a given resistor is noted, the horizontal and vertical controls set so a capacitor produces a perfect circle and any deviation shows which way the difference lies. About the only common electronic components the curve tracer won't test are quartz crystals and batteries.

In summary, then, the Curve Tracer provides accuracy, speed and simplicity. With a very minimum of equipment, or investment, any serviceman can determine the "go" or "no-go" condition of a semiconductor, in or out of circuit.

Got room for more news so here goes: Milt Adams WB6KOR has recently installed a new tower and antenna he bought through a FAARAGRAPHS ad from Bob Wallace K6OL, and is raising all sorts of new DX. Just about every day I see Milt at SRI and he always fills me in on the latest hot DX activities. One of these days--I'll get back to that aspect of ham radio! Bob Baum is trying to get his Heath low band rig going so he can make a sked with his son who is now a ham overseas somewhere. Thats right, Bob, you had better try something other than 2 meters which has been your only band lately, unless your son can use OSCAR-- ha ha! (or I have said hi hi?) should

THE SAN CARLOS BUGLE

The Club has initiated a new coffee kitty idea that is really helping our treasury. Everyone is apparently putting in the kitty as the past several meetings have approached breaking even.

The Club is going to acquire lots of 2 meter gear from one of our local manufacturers in the next few days.

Our illustrious President brought his new TV camera and monitor to the last meeting and we enjoyed a very good picture. The impressing feature was the minimum number of connections and cables (no haywire).

Larry Reed has returned from Forest City, Iowa with his new Winnebago Motor Coach which will be on duty on our Field Day site.

Last Club meeting was devoted to "Field Day". From the way things are shaping up, it looks like we are going to be "Hertz #1" in-so-far as scoring goes.

The Club enjoyed the tour to the Ancient Wireless display at Foothill College and all felt that the trip was well worth while.

Plans are shaping up for a Club auction this fall and it is hoped that it will help out in respect to building up the treasury/

Bill Jackson and Gene Sussli went on a field trip last month in Bill's new camper. They went to occupy Alpine County in the Sierras for the County Hunters contest. Alpine County has not has a resident ham in something like twenty years. WELL ! ! Band conditions were not the best on that weekend and the final score reflected that. But I let those fellows give you a separate report on their experiences.

73, Larry Reed, W6CTH

* * * * *

A big WELCOME ABOARD to PAARA's outstanding organization to "Jack" Foultz, WA6JVQ. Our members will now have a fellow sufferer to whom to go at HEATH ELECTRONICS when we have troubles. Hope you can join us on Field Day, Jack. Will look forward to an eye-ball QSO at our next meeting.

JOIN THE CLUB

PAY YOUR DUES

BE A PARTICIPATOR

HALTEK ELECTRONICS

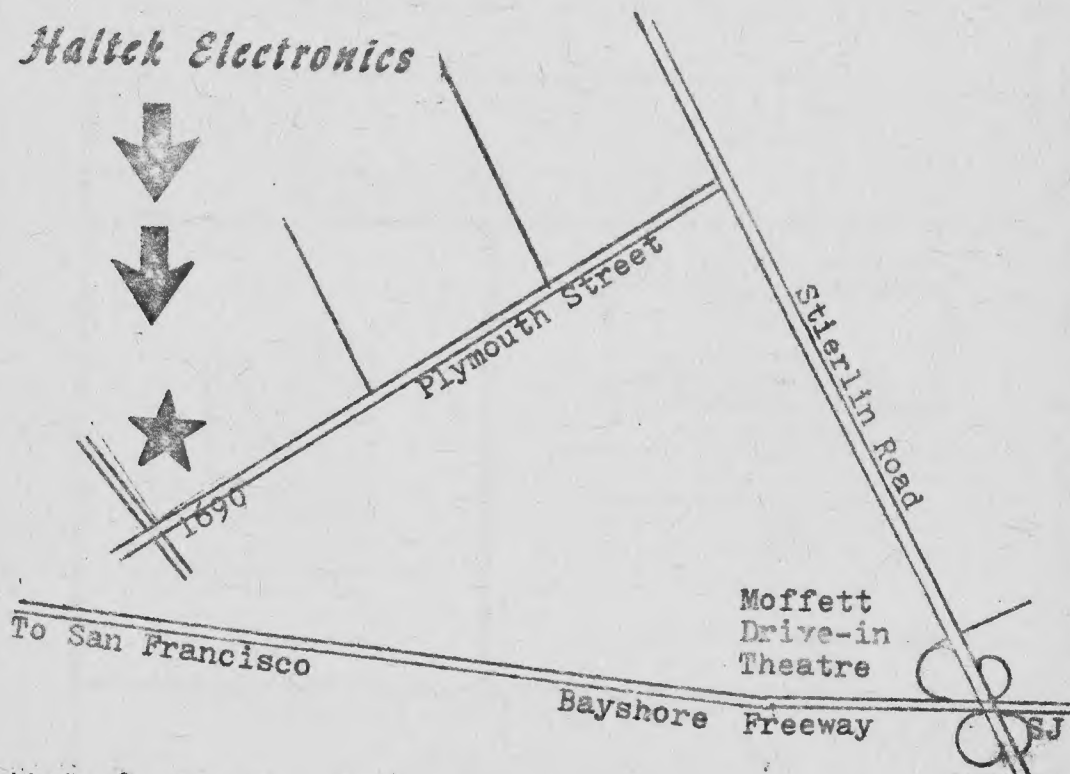
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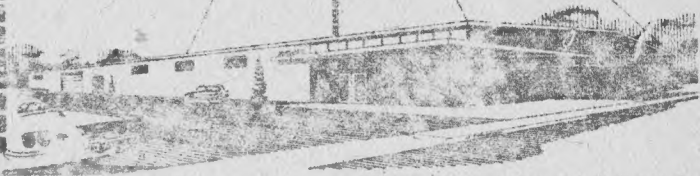


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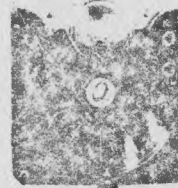
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